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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIM, CHONG R

ART UNIT PAPER NUMBER

2623

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,108

Applicant(s)

LIN, YUN-TING

Examiner

Charles Kim

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of grammatical errors. It appears that the applicant intended the phrase “causes the video camera to following a face” in line 4 to read “causes the video camera to **follow** a face”. Appropriate correction is required.

The following quotation of 37 CFR § 1.75 (d)(1) is the basis of objection:

(d)(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

2. Claims 10-13 are objected to under 37 CFR § 1.75 (d)(1) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

Referring to claim 10, the phrase “the detected face image” in line 5 lacks antecedent basis. It appears that the applicant intended the phrase to read “a detected face image”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2623

3. Claims 1-3, 5, 6, 10, 12, 14-15, 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Turk et al., U.S. Patent No. 5,164,992 ("Turk").

Referring to claim 1, Turk discloses an adaptive face recognition system, comprising:

- a. a database configured to store a plurality of face classes (col. 7, lines 39-61)
- b. an image capturing system (4) for capturing images (col. 3, lines 16-36)
- c. a detection system (10) , wherein the detection system detects face images by comparing captured images with a generic face image (col. 3, lines 37-48. Note that the "reference set of faces" in line 45 is interpreted as the generic face image)
- d. a search engine for determining if a detected face image belongs to one of a plurality of known face classes (col. 7, lines 1-9 and 62-68)
- e. a system for generating a new face class for the detected face image if the search engine determines that the detected face image does not belong to one of the known face classes (col. 7, line 62-col. 8, line 2).

Referring to claim 2, Turk further discloses an adaptive training system that adds the detected face to an associated face class when the search engine determines that the detected image belongs to one of the known face classes (col. 8, lines 3-8).

Referring to claim 3, Turk further discloses that the adaptive training system adds the detected face using a sequential eigen decomposition (col. 8, lines 3-8).

Referring to claim 5, Turk further discloses that the generic face image is represented by a set of eigentemplates (col. 5, lines 15-64).

Art Unit: 2623

Referring to claim 6, Turk further discloses that the detection system utilizes a distance criterion (Euclidian distance) to determine if the detected face belongs to one of the known face classes (col. 6, lines 63-68).

Referring to claim 10, Turk discloses a method for performing adaptive face recognition, comprising the steps of:

- a. capturing a stream of image data (col. 3, lines 16-36)
- b. identifying a face image from the stream of image data by comparing the image data to a generic face image (col. 3, lines 37-48. Note that the “reference set of faces” in line 45 is interpreted as the generic face image)
- c. searching a database of face classes to determine if a detected face image belongs to one of a plurality of known face classes (col. 7, lines 1-9 and 62-68)
- d. if the detected face image belongs to one of the known face classes, adding the detected face image to the face class that owns the face image (col. 8, lines 3-8)
- e. if the face image does not belong to one of the known face classes, creating a new face class with the face image (col. 7, line 62-col. 8, line 2).

Referring to claim 12, see the rejection of at least claim 6 above.

Referring to claim 14, see the rejection of at least claim 10 above.

Referring to claim 15, see the rejection of at least claim 3 above.

Referring to claim 17, Turk further discloses that the system for adding the detected face image further comprises a selection system that selects only acceptable face images for adding to the associated face class (col. 4, lines 54-64).

Referring to claim 18, see the rejection of at least claim 6 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Turk et al., U.S. Patent No. 5,164,992 ("Turk") and Yang, U.S. Patent No. 6,700,999 ("Yang").

Referring to claim 4, Turk further discloses a video camera (4), and a face tracking system (col. 8, lines 25-40), but does not explicitly disclose that the tracking system causes the video camera to follow a face. However, this feature was exceedingly well known in the art. For example, Yang discloses a face tracking system that causes a video camera to follow a face (col. 8, line 58-col. 9, line 5).

Turk and Yang are combinable because they are both concerned with face recognition systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the face tracking system of Turk so that it causes the video camera to follow a face, as taught by Yang. The suggestion/motivation for doing so would have been to ensure that the faces of one or more human subjects will continue to appear in the video sequence for proper face recognition (Yang, col. 8, line 63-col. 9, line 1). Therefore, it would have been obvious to combine Turk with Yang to obtain the invention as specified in claim 4.

Referring to claim 16, see the rejection of at least claim 4 above.

Art Unit: 2623

5. Claims 7-9, 11, 13, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Turk et al., U.S. Patent No. 5,164,992 ("Turk") and Atick et al., U.S. Patent No. 6,111,517 ("Atick").

Referring to claim 7, Turk does not explicitly disclose a control system for controlling access to user applications. However, this feature was exceedingly well known in the art. For example, Atick discloses a control system for controlling access to user applications (col. 6, lines 1-25).

Turk and Atick are combinable because they are both concerned with face recognition systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the control system of Atick in the face recognition system of Turk. The suggestion/motivation for doing so would have been to increase the flexibility of the system by providing the capability of utilizing the face recognition system in a variety of environments. Therefore, it would have been obvious to combine Turk with Atick to obtain the invention as specified in claim 7.

Referring to claim 8, Atick further discloses that the control system controls access based on an identification of a face class by a search engine (col. 6, lines 1-25).

Referring to claim 9, Atick further discloses an administrative interface for labeling face classes and providing access to reports regarding usage of user applications (col. 6, lines 1-25. Note that the face classes are labeled as authorized individuals).

Referring to claim 11, Turk further discloses the step of tracking the detected face (col. 8, lines 25-61). However, Turk does not explicitly disclose the steps of capturing additional views

Art Unit: 2623

of the detected face image, and adding additional views of the detected face image to the face class that owns the detected face image.

Atick discloses the steps of capturing additional views of a detected face image, and adding additional views of the detected face image to a face class that owns the detected face image (col. 11, lines 52-57).

Turk and Atick are combinable because they are both concerned with face recognition systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include Atick's additional views of the detected face image in the face recognition method of Turk. The suggestion/motivation for doing so would have been to provide a more refined face class (template), thereby enhancing the accuracy of the face recognition process (Atick, col. 11, lines 52-57). Therefore, it would have been obvious to combine Turk with Atick to obtain the invention as specified in claim 11.

Referring to claim 13, see the rejection of at least claim 8 above.

Referring to claim 19, see the rejection of at least claim 7 above.

Referring to claim 20, see the rejection of at least claim 8 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 703-306-4038. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.


Art Unit: 2623

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ck
May 17, 2004



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